

WHAT IS CLAIMED IS:

1. A data communication apparatus, comprising:

5 (a) communication means having a first mode of transmitting information data isochronously with a predetermined communication cycle and a second mode of transmitting information data asynchronously with the predetermined communication cycle;

10 (b) encoding means for encoding the information data by a predetermined encoding method; and

15 (c) control means for controlling said communication means so as to transmit encoded information data when the encoding method corresponds to a decoding method at an object node apparatus and to transmit non-encoded information data when the encoding method does not correspond to the decoding method at the object node apparatus.

20 2. A data communication apparatus according to claim 1, wherein said control means controls so as to transmit information data encoded by using the first or second mode, when the encoding method corresponds to the decoding method at the object node apparatus.

25 3. A data communication apparatus according to claim 2, wherein said control means controls so as to transmit by using the first mode when the information data is moving image data.

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4. A data communication apparatus according to
claim 1, wherein said control means controls so as to
transmit information data encoded by using the first or
second mode, when the encoding method does not
5 correspond to the decoding method at the object node
apparatus.

5. A data communication apparatus according to
claim 4, wherein said control means controls so as to
10 transmit by using the second mode when the information
data is still image data.

6. A data communication apparatus according to
claim 1, wherein said communication means transmits the
15 information data to the object node apparatus via a
data bus.

7. A data communication apparatus according to
claim 1, wherein communication using the first mode and
20 communication using the second mode can be mixed in the
communication cycle.

8. A data communication apparatus according to
claim 1, wherein the first mode has a higher priority
over the second mode in the communication cycle.

9. A data communication apparatus according to

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claim 1, wherein the first mode is in conformity with an isochronous transmission mode of IEEE 1394 specifications, and the second mode is in conformity with an asynchronous transmission mode of IEEE 1394 specifications.

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10. A data communication apparatus according to
claim 1, wherein the non-encoded information data
includes information data once encoded and thereafter
decoded.

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11. A data communication apparatus according to
claim 1, wherein the information data contains moving
image data or still image data.

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12. A data communication apparatus according to
claim 1, wherein the data communication apparatus is a
digital video camera equipped with an image pickup unit
for generating digital image information from an
20 optical image of a subject.

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13. A data communication apparatus according to
claim 1, wherein the data communication apparatus is a
video recorder for recording image information encoded
25 by said encoding means in a predetermined storage
medium.

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14. A data communication apparatus, comprising:
5 (a) communication means having a first mode of communication isochronous with a predetermined communication cycle and a second mode of communication asynchronous with the communication cycle;

10 (b) encoding means for encoding image information in accordance with a decoding performance at an object node apparatus, the image information including moving image information and still image information; and

15 (c) control means for controlling said communication means so as to transmit the moving image information by using the first mode and to transmit the still image information by using the second mode.

15 15. A data communication apparatus according to
claim 14, wherein said control means controls said
communication means transmits the still image
information by using the first mode when a plurality
set of still image information are sequentially
20 transmitted.

16. A data communication apparatus according to
claim 14, wherein the still image information is
contained in the moving image information.

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17. A data communication apparatus according to
claim 14, wherein the data communication apparatus is a

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digital video camera equipped with an image pickup unit for generating digital image information from an optical image of a subject.

5 18. A data communication apparatus according to claim 14, wherein the data communication apparatus is a video recorder for recording image information encoded by said encoding means in a predetermined storage medium.

10 19. A data communication apparatus, comprising:
 (a) input means for inputting moving image information and still image information;
 (b) encoding means for encoding the moving image information and the still image information; and
 (c) transmitting means for transmitting the moving image to a number of unidentified apparatuses and transmitting the still image information to a designated apparatus.

15 20. A data communication apparatus according to claim 19, wherein said transmitting means transmits the moving image information by using a transmission bandwidth assigned to each predetermined communication cycle and transmitting the still image information by using an idle bandwidth of the communication cycle.

21. A data communication apparatus according to
claim 19, wherein said encoding means encodes the
moving image information and the still image
information by using an encoding performance
5 corresponding to a decoding method at an object node
apparatus.

22. A data communication apparatus, comprising:
10 (a) input means for inputting information data;
(b) encoding means for encoding the information
data; and
15 (c) transmitting means for transmitting decode
information containing program codes realizing the
decoding method corresponding to an encoding method to
be used by said encoding means and transmitting the
information data encoded by said encoding means.

23. A data communication apparatus according to
claim 22, wherein the decode information contains
20 control data for inhibiting to use the program codes
under predetermined conditions.

24. A data communication apparatus according to
claim 22, wherein the information data includes image
25 data.

25. A data communication apparatus, comprising:

(a) input means for inputting encoded information data and decode information realizing a decoding process for the information data; and

5 (b) decoding means for decoding the encoded information data by using the decode information.

26. A data communication apparatus, comprising:

(a) encoding means for encoding information data by using a predetermined encoding method;

10 (b) decoding means for decoding information data encoded by said encoding means; and

(c) selecting means for selecting an output of either said encoding means or said decoding means in accordance with whether the encoding method corresponds to a decoding method at an object node apparatus.

15 27. A data communication method, comprising the steps of:

(a) encoding information data by a predetermined encoding method;

20 (b) transmitting encoded information data isochronously with a predetermined communication cycle when the encoding method corresponds to a decoding method at an object node apparatus; and

25 (c) transmitting non-encoded information data asynchronously with the communication cycle when the encoding method does not correspond to the decoding

method at the object node apparatus.

28. A data communication method, comprising the steps of:

5 (a) encoding image information in accordance with a decoding performance at an object node apparatus, the image information including moving image information and still image information;

10 (b) transmitting the moving image information by using a communication scheme isochronous with a predetermined communication cycle; and

15 (c) transmitting the still image by the communication scheme isochronous with the communication cycle or by a communication scheme asynchronous with the communication cycle.

29. A data communication method, comprising the steps of:

20 (a) inputting moving image information and still image information;

(b) encoding the moving image information and the still image information; and

(c) transmitting the moving image to a number of unidentified apparatuses and transmitting the still image information to a designated apparatus.

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Sub B1 30. A data communication method, comprising the

steps of:

- (a) inputting information data;
- (b) encoding the information data; and
- (c) transmitting decode information containing

5 program codes realizing the decoding method corresponding to an encoding method to be used at said encoding step and transmitting the information data encoded at said encoding step.

10 31. A data communication method, comprising the
steps of:

(a) inputting encoded information data and decode information realizing a decoding process for the information data; and

15 (b) decoding the encoded information data by using
the decode information.

32. A data communication method, comprising the steps of:

20 (a) encoding information data by using a predetermined encoding scheme;

(b) decoding information data encoded at said encoding step; and

25 (c) selecting an output of either the encoded information data or the decoded information data in accordance with whether the encoding scheme corresponds to a decoding scheme at an object node apparatus.

33. A data communication system having a first mode of transmitting information data isochronously with a predetermined communication cycle and a second mode of transmitting information data asynchronously with the predetermined communication cycle, wherein encoded information data is transmitted when a predetermined encoding scheme corresponds to a decoding scheme at an object node apparatus and non-encoded information data is transmitted when the encoding scheme does not correspond to the decoding scheme at the object node apparatus.

34. A data communication system having a first mode of communication isochronous with a predetermined communication cycle and a second mode of communication asynchronous with the communication cycle, wherein moving image information encoded in accordance with a decoding performance at an object node apparatus is transmitted by using the first mode and still image information encoded in accordance with the decoding performance at the object node apparatus is transmitted by using the first or second mode.

35. A data communication system, comprising:
(a) a transmission apparatus for transmitting decode information containing program codes realizing a decoding method corresponding to a predetermined

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encoding method and transmitting information data
encoded by using the encoding method; and

(b) a reception apparatus for receiving the decode
information and the information data and decoding the
information data by using the decode information.

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36. A program for a data communication process
stored in a computer readable storage medium,
comprising the steps of:

(a) encoding information data by a predetermined
encoding method;

(b) transmitting encoded information data
isochronously with a predetermined communication cycle
when the encoding method corresponds to a decoding
method at an object node apparatus; and

15 (c) transmitting non-encoded information data
asynchronously with the communication cycle when the
encoding method does not correspond to the decoding
method at the object node apparatus.

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37. A program for a data communication process
stored in a computer readable storage medium,
comprising the steps of:

(a) encoding image information in accordance with
a decoding performance at an object node apparatus, the
image information including moving image information
and still image information;

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(b) transmitting the moving image information by using a communication scheme isochronous with a predetermined communication cycle; and

5 (c) transmitting the still image by the communication scheme isochronous with the communication cycle or by a communication scheme asynchronous with the communication cycle.

38. A program for a data communication process stored in a computer readable storage medium, comprising the steps of:

(a) inputting moving image information and still image information;

15 (b) encoding the moving image information and the still image information; and

(c) transmitting the moving image to a number of unidentified apparatuses and transmitting the still image information to a designated apparatus.

20 39. A program for a data communication process stored in a computer readable storage medium, comprising the steps of:

(a) inputting information data;

(b) encoding the information data; and

25 (c) transmitting decode information containing program codes realizing the decoding method corresponding to an encoding method to be used at said

encoding step and transmitting the information data encoded at said encoding step.

40. A program for a data communication process
5 stored in a computer readable storage medium,
comprising the steps of:

(a) inputting encoded information data and decode information realizing a decoding process for the information data; and

10 (b) decoding the encoded information data by using the decode information.

41. A program for a data communication process stored in a computer readable storage medium,
15 comprising the steps of:

(a) encoding information data by using a predetermined encoding scheme;

(b) decoding information data encoded at said encoding step; and

20 (c) selecting an output of either the encoded information data or the decoded information data in accordance with whether the encoding scheme corresponds to a decoding scheme at an object node apparatus.